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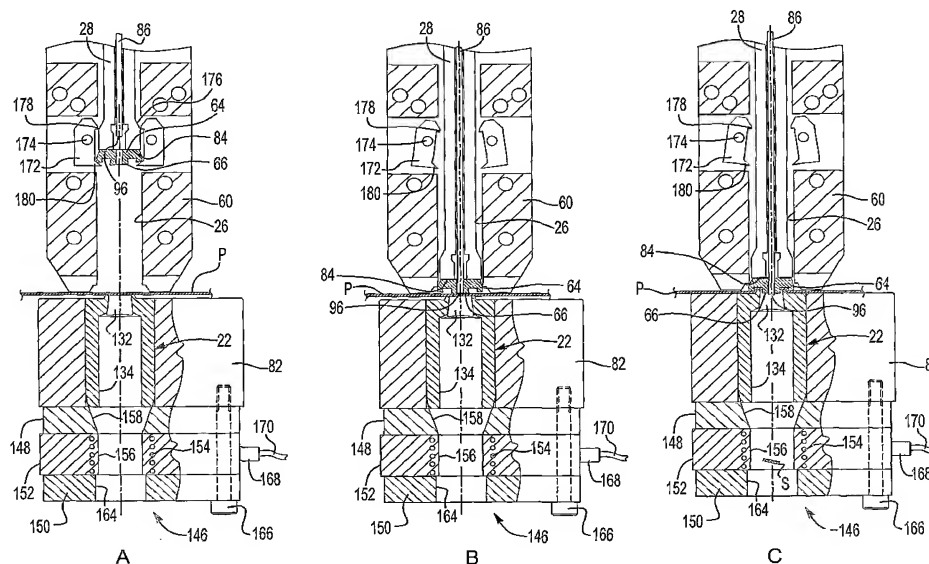
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(54) Title: SELF-DIAGNOSING PIERCE NUT INSTALLATION APPARATUS



(57) Abstract: A self-diagnosing pierce nut installation apparatus including an installation head (20) attached to an upper die member of a die press having a reciprocating plunger (28) driving a pierce nut (64) against a panel (P), piercing a slug from the panel upon closing of the press and a rod (86) telescopically received in the plunger (28) resiliently biased through the nut bore if a slug is pierced from the panel (P) or against the panel if not pierced, and a sensor sensing axial movement of the rod (86) stopping the press if the rod (86) engages the panel (P). A die located in the lower die member includes a slug sensor (152) confirming receipt of the panel slug (S) through the die member (22).

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*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*